PROC. ENTOMOL. SOC. WASH.
99(4), 1997, pp. 666–675

SYNONYMY OF TWO GENERA (*EUMAYRIA* AND *TRISOLENIELLA*) OF CYNIPID GALL WASPS AND DESCRIPTION OF A NEW GENUS, *EUMAYRIELLA* (HYMENOPTERA:CYNIPIDAE)

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Abstract.—The genus *Trisoleniella* Rohwer and Fagan is a **new synonym** of *Eumayria* Ashmead. A redescription of *Eumayria* and a key to species are given. Species included in *Eumayria* are: *E. bignelli* (Dalla Torre and Kieffer), **n. comb.;** *E. brevicornis* (Beutenmueller), **n. comb.;** *E. enigma* (Weld), **n. comb.;** *E. floridana* Ashmead; and *E. saltata* (Ashmead), **n. comb.** *Eumayria enigma* is probably the unisexual generation of *E. floridana.* Two species previously placed in *Eumayria* are transferred to other genera: *E. longipennis* (Ashmead) to *Andricus* (**n. comb.**) and *E. invisa* (Weld) to *Eumayriella* (**n. comb.**). ***Eumayriella,* n. gen.,** is described to include ***E. archboldi,* n. sp.,** and *E. invisa,* and it is compared to the closely related genus *Eumayria.*

Key Words: cynipoids, gall wasps, taxonomy, morphology, distribution, biology

The diagnostic features currently used in the keys to North American oak cynipid genera of the tribe Cynipini frequently include morphological characters that are variable and consequently are unable to distinguish different genera. These systematic difficulties are the outcome of using inappropriate diagnostic characters for some genera. The presence or absence of a tooth of the tarsal claws is the main diagnostic character used to divide all the Cynipini into two large generic groups and the current systematic arrangement of the tribe is based primarily on this characters (Weld 1952a). Ashmead (1886), in his earlier key to the genera of the Cynipidae did not use this criterion; however, his later generic key included this characteristic (Ashmead 1903). This morphological criterion is insufficient for all taxonomic distinctions. The presence or absence of tooth on the tarsal claw is likely a homoplasy and probably evolved independently in several Cynipini genera. The ancestral condition is probably the simple tarsal claw since it appears in the majority of genera from the Aylacini. The authors will analyse this character in detail in another work.

Furthermore, the nomenclature used to describe taxonomically important structures in publications prior to the 1960s is inconsistent (Dailey and Menke 1980). Various authors have used different terminology to define the same morphological structure and have employed the same term for different structures. As a consequence, species have been misunderstood and misidentified.

Four species of *Eumayria* Ashmead were known, all from the United States: *E. eldoradensis* (Beutenmueller), *E. floridana* Ashmead, *E. invisa* Weld, and *E. longipennis* (Ashmead). *Eumayria eldoradensis* was transferred into *Callirhytis* previously (Dailey et al. 1974), while *E. longipennis* herein is transferred to *Andricus.* A comparison of the morphological criteria designated earlier as diagnostic for the separation of *Eumayria* and *Trisoleniella* and an analysis of the types of *Eumayria* and *Trisoleniella* species, indicate that the two genera are synonyms. *Trisoleniella* included the unisexual generations, while *Eumayria* contained the bisexual ones. Weld (1952a) wrote that *Trisoleniella* "may prove to be asexual form of *Eumayria*". Consequently, the four known species of *Trisoleniella: brevicornis* (Beutenmueller), *enigma* (Weld), *bignelli* (Dalla Torre and Kieffer), and *saltata* (Ashmead) are transferred to *Eumayria.* Furthermore, an examination of the morphological characteristics of the only known brachypterous species, *E. invisa,* showed marked differences from those of *E. floridana* as well as other known *Trisoleniella* species. These differences indicate that *E. invisa* and *E. archboldi,* (new species), must be separated into a new genus *Eumayriella.*

We follow the current terminology for morphological structures (Eady and Quinlan 1963, Fergusson 1995, Gibson 1985, Menke 1993, Ritchie and Peters 1981, Ronquist and Nordlander 1989). The term "thorax" used here includes the propodeum and thus is equivalent to the "mesosoma" or "mesosoma+metasoma" of American literature. Abbreviations for fore wing venation follow Ronquist and Nordlander (1989). Measurements and abbreviations used here include: F1–F12, 1st and consequent flagellomeres; POL (post-ocellar distance) is the distance between the inner margins of the posterior ocelli; OOL (ocellocular distance) is the distance from the outer edge of a posterior ocellus to the inner margin of the compound eye.

Eumayria Ashmead

Eumayria Ashmead 1887: 147; Ashmead 1903: 153. Type species: *Eumayria floridana* Ashmead, by monotypy.

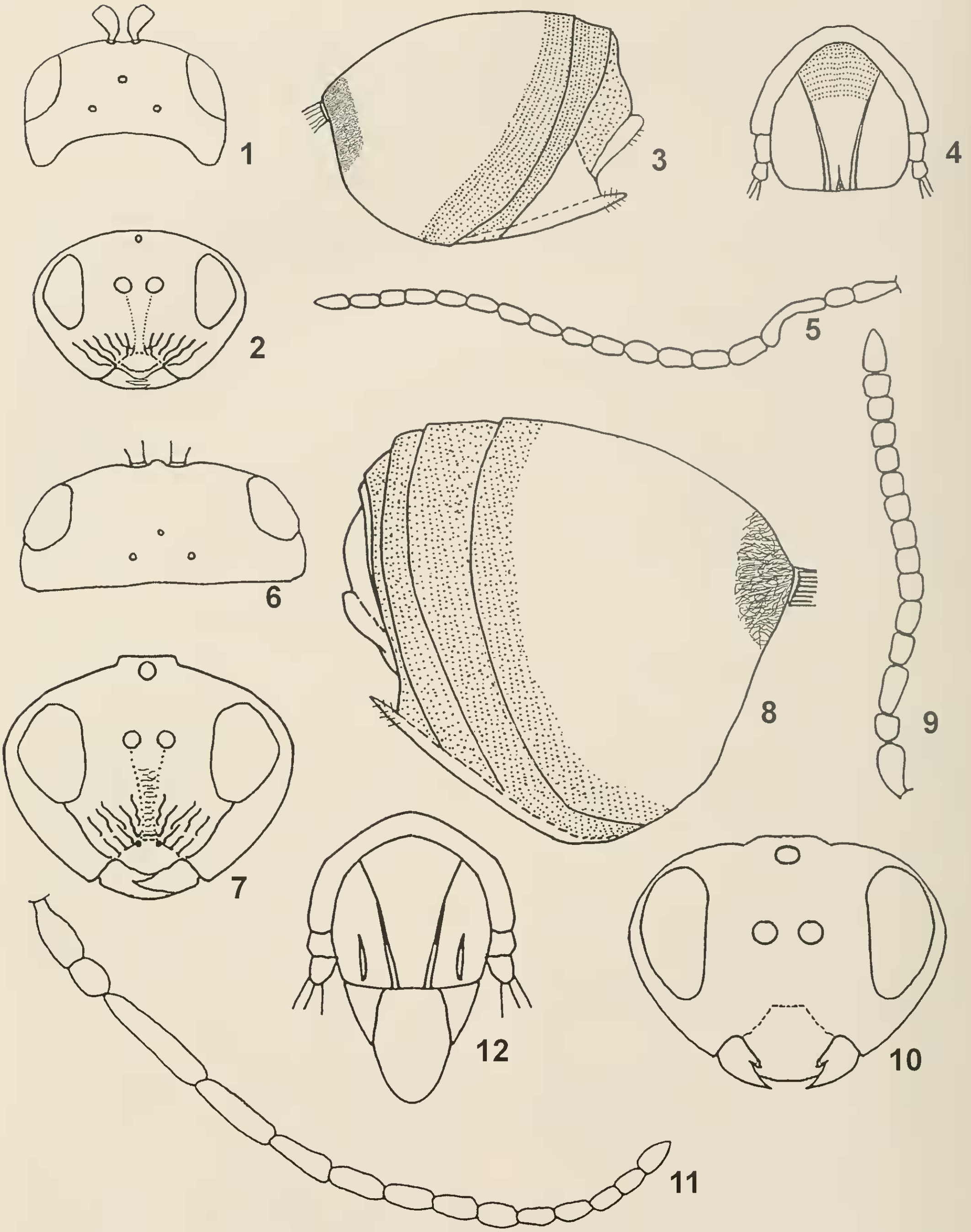
Trisolenia Ashmead 1887: 142: Ashmead 1903: 155; Dalla Torre and Kieffer 1910: 453 (as synonym of *Andricus* Hartig). Type species: *Andricus saltatus* Ashmead, by monotypy. Preoccupied by *Trisolenia* Ehrenberg 1861 in Protozoa. **New synonymy.**

Trisoleniella Rohwer and Fagan 1917: 377. New name for *Trisolenia* Ashmead.

Comments.—The original descriptions of *Eumayria* and *Trisoleniella* were made by Ashmead (1887). However, these descriptions lack sufficient precision and detail and do not include some important diagnostic characters. Some of the characters used in Ashmead's generic descriptions are found in other genera as well. Too much attention was paid to the description of antennae of males and females while important characters of the head and thorax were not mentioned. Finally, a redescription of the genus is necessary in order to set new limits for the genus because of synonymization of *Trisoleniella* to *Eumayria.*

Diagnosis.—Head 1.5–1.7 times broader than long from above in bisexual generation and 2.5–2.8 times broader than long in unisexual females; malar groove absent. Thorax flattened dorsoventrally, not arching in anterior part; scutum slightly longer than broad, finely coriaceous or macroscopically punctate, never transversely sculptured. Base of 2nd abdominal tergite with pale felt-like ring of dense short setae, interrupted dorsally (in males dense short pale setae present only ventrally and ventroaterally). See also the diagnostic criteria of *Eumayriella* below.

Redescription.—Female. Head from above equal or broader than thorax; 1.5–1.7 times broader than long from above in bisexual females (Fig. 1) and 2.5–2.8 times broader than long in unisexual females (Fig. 6); in front view head 1.2–1.3 times broader than high. Gena broadened behind eye, equal or broader than cross diameter of eye. POL and OOL nearly equal. Occiput and vertex finely coriaceous, while frons and gena dull rugose, frons with uniformly distributed short white setae. Malar space slightly shorter than length of eye, without groove, but with numerous striae radiating



Figs. 1–12. 1–5, *Eumayria floridana*. 1, Head from above. 2, Head in front view. 3, Gaster of female in profile. 4, Thorax in dorsal view. 5, Male antenna. 6–9, *E. enigma*. 6, Head from above. 7, Head in front view. 8, Gaster of female in profile. 9, Antenna. 10–12, *Eumayriella archboldi*. 10, Head in front view. 11, Antenna. 12, Thorax in dorsal view.

from mouthparts into malar space and frons (Figs. 2, 7); striae more distinct and thicker in former *Trisoleniella* than in *Eumayria floridana.* Antenna 14-segmented in bisexual females and 15–16-segmented in unisexual females; in some *E. floridana* specimens, suture separates 15th segment. F1 as long as pedicel, scape as broad as long; F2 to F4 slightly longer than broad, subsequent flagellomeres, except last one, subequal, nearly as broad as long (Fig. 9). Pronotum in median dorsal line longer than usual, with two very dense patches of white short setae on both sides of median dorsal line, collar of pronotum not emarginated, lie in same range as scutum, much broader than usual for Cynipini (Fig. 4), and longitudinally rugose. Scutum bare, very slightly longer than broad, finely alutaceous or macroscopically punctate, never transversely sculptured; notauli usually reaching pronotum; parapsidal, anterior parallel and median lines present, latter distinct at least over posterior two thirds. Scutellum bare, equal or very slightly longer than broad, rounded posteriorly, disk dull rugose; foveae deep, with shiny, more finely sculptured bottom. Mesepisternum longitudinally rugose, posterior third smooth, shiny, with very finely rugose sculpture. Propodeum with smooth, bare and shiny median portion limited by distinct carinae, converging slightly outwards in the middle. Sides of propodeum bearing dense white setae. Fore wing margins without cilia, veins thick, dark brown, areolet indistinct, very small, triangular. Base of 2nd abdominal tergite with pale felt-like ring of dense short setae, interrupted dorsally. In *E. floridana* gaster longer than high, 2nd abdominal tergite occupies at least ⅚ of gaster length in dorsal view; only posterior ⅓ to ¼ finely punctate while remainder smooth (Fig. 3). In former *Trisoleniella* species gaster nearly as long as high or only very slightly longer, 2nd abdominal tergite occupies only ⅔ of gaster length and finely punctate (Fig. 8) (shape of gaster could depend on size of egg mass). Ventral spine of hypopygium narrow, longer than broad, never reaching beyond apex of gaster, with very few short scattered pale setae never reaching beyond apex of spine. Unisexual females larger than bisexual ones.

Male. Only known male is that of *E. floridana.* Antenna 17-segmented (in some specimens indistinct suture suggests 18th segment), first three segments flattened, F1 slightly longer than pedicel and scape together, strongly curved and enlarged posteriorly. All subsequent flagellomeres, except last one, nearly of same length, slightly longer than broad (Fig. 5). Fore wing margins with cilia, veins thick and brown. Gaster as long as head and thorax together; 2nd abdominal tergite occupies entire length of gaster, subsequent tergites hidden under it. Otherwise, males similar to females.

Distribution.—Eastern and midwestern United States. Three species are known only from Florida: *E. floridana, E. enigma,* and *E. saltata. Eumayria brevicornis* and *E. bignelli* are known from New York and New Jersey; the galls they induce are unknown.

Biology.—Eumayria floridana is known only from a bisexual generation and induces stem swelling-like galls, while the four other species have only unisexual generations.

KEY TO SPECIES OF *EUMAYRIA* AND *EUMAYRIELLA*

1. Fully winged; 2nd abdominal tergite with felt-like ring of dense short pale setae at base, interrupted dorsally 3
– Brachypterous females; without ring of dense short pale setae at base of 2nd abdominal tergite 2
2. Frons without or with very few short scattered white setae; scutum and scutellum slightly elongated; notauli reaching pronotum; F1 equal or slightly longer than pedicel and scape together; small species, length 2.3–3.2 mm. . . . . *Eumayriella invisa* (Weld)
– Frons with dense white, long setae; scutum and scutellum rounded, nearly as broad as long; notauli present at least in posterior half, the sculpture of scutum hidden under dense white pubescence; F1 distinctly longer than pedicel and

scape together; larger species, length 4.0–5.2 mm. . . . . *Eumayriella archboldi*, n. sp.

3. Male; F1 curved and broadened in its posterior half . . . . *Eumayria floridana* Ashmead
– Female 4
4. Head broader than thorax, 1.5–1.7 times broader than long from above; scutum finely alutaceous; antenna 14-segmented; small species . . . . *Eumayria floridana* Ashmead
– Head as broad as thorax, 2.5–2.8 times broader than long from above; scutum finely alutaceous or densely macroreticulate; antenna 14–16-segmented; large specimens, at least 4–5 mm. in length; 5
5. Antenna 14-segmented; scutum densely and uniformly punctate; body black or dark brown . . . .*Eumayria brevicornis* (Beutenmueller)
– Antenna 15–16 segmented 6
6. Antenna 15-segmented; known to induce root galls . . . . *Eumayria enigma* (Weld)
– Antenna 16-segmented 8
8. Scutum very finely and uniformly coriaceous . . . . *Eumayria saltata* (Ashmead)
– Scutum with much more dull sculpture at basal end . .*Eumayria bignelli* (Dalla Torre and Kieffer)

Eumayria bignelli (Dalla Torre and Kieffer), New Combination

Trisolenia punctata Ashmead 1896: 129. Preoccupied in *Andricus* by Bignelli 1892. Types examined.

Andricus bignelli Dalla Torre and Kieffer 1902: 61. New name for *Trisolenia punctata* Ashmead.

Amphibolips montana Beutenmueller 1913a: 122; Weld 1951: 644 (synonym of *punctata*). Type examined.

Trisoleniella punctata: Weld 1951: 644 (secondary homonym).

Diagnosis.—Closely resembles *E. saltata* in having 16-segmented antenna, however, basal end of scutum with duller sculpture than that of *E. saltata.*

Distribution.—New York, New Jersey.

Biology.—Unisexual females only are known. The galls and the host associations are unknown.

Eumayria brevicornis (Beutenmueller), New Combination

Andricus brevicornis Beutenmueller 1913b: 245. Type examined.

Trisoleniella brevicornis: Weld 1951: 644.

Diagnosis.—Closely resembles *E. saltata* and *E. enigma,* however, antenna 14-segmented while in *E. enigma* and *E. saltata* antennae 15–16 segmented; scutum densely and uniformly punctate; body black or dark brown.

Distribution.—New Jersey.

Biology.—Unisexual females only are known. Galls are unknown. Observed ovipositing in the buds of *Quercus alba* L. (Beutenmueller 1913b).

Eumayria floridana Ashmead

Eumayria floridana Ashmead 1887: 133, 147. Females, males, galls. Types examined.

Eumayria multiarticulata Ashmead 1887: 133 (name proposed unnecessarily; description of galls according to those of *E. floridana*); Dalla Torre and Kieffer 1910: 601; Weld 1921: 230 (as a synonym of *E. floridana*); Burks 1979: 1107 (in unplaced species of Cynipoidea).

Diagnosis.—Head broader than thorax, only 1.5–1.7 times broader than long from above, antenna 14-segmented, while in all other species of genus head as broad as thorax and 2.5–2.8 times broader than long from above, and antenna 15–16 segmented. On basis of galls only, difficult to distinguish from some *Loxaulus* galls and those of *Bassettia floridana.* Typically galls of *E. floridana* are larger swellings than those produced by above-mentioned species. Reared adults and knowledge of host oak are critical to correct identification.

Distribution.—Indiana, Illinois, Arkansas, Texas, Virginia, Florida.

Biology.—Only a bisexual generation is known. Induces stem-swelling galls at the base of young sprouts of *Quercus coccinea* Muench., *Q. falcata* Michx., *Q. ilicifolia* Wangenh., *Q. incana* Bartr., *Q. laurifolia* Michx., *Q. myrtifolia* Willd., *Q. rubra* L., *Q. texana, Q. velutina* Lam. (Weld 1921, 1959). Adults emerge in May through August.

Eumayria enigma (Weld), New Combination

Callirhytis enigma Weld 1921: 219. Females and galls. Types examined.
Trisoleniella enigma: Weld 1951: 644.

Diagnosis.—Similar to *E. saltata,* however female antennae with 15 and not 16 segments. Location of galls and host oaks different for the two species.

Taxonomic comments.—Morphological characteristics of the adults suggest that *E. enigma* could be a unisexual generation of *E. floridana.* It differs from *floridana* in that the head as broad as the thorax, while in *floridana* the head is broader than the thorax. The only other morphological differences between these two species are the number of antennal segments (14 in *E. floridana* and 15 in *E. enigma*), and the shape of the gaster and particularly that of the 2nd abdominal tergite. Otherwise they are identical.

Distribution.—Illinois, Texas, Virginia, Louisiana, Florida.

Biology.—Unisexual females only are known. Induce root galls on *Quercus laevis* Walt., *Q. myrtifolia, Q. nigra* L., *Q. rubra, Q. texana* (Weld 1921, 1959). Adult emergence date is unknown. Adults can be dissected from galls by the beginning of November in Florida (Weld 1921).

Eumayria saltata (Ashmead), New Combination

Andricus (Trisolenia) saltatus Ashmead 1887: 142. Females and galls. Types examined.
Trisolenia saltata: Ashmead 1903: 155.
Andricus saltatus: Dalla Torre and Kieffer 1910: 549.
Trisoleniella saltata: Weld 1951: 644.

Diagnosis.—The galls are very specifically shaped, easily distinguished by the gall alone. For adults, see the key to the species and diagnosis of *E. bignelli, E. brevicornis.*

Distribution.—North Carolina, Florida (Jacksonville, Ocala - Weld 1926, 1951).

Biology.—Unisexual females only are known. Induces bud galls on *Quercus falcata* (Weld 1951), *Q. laevis, Q. incana* (Ashmead 1887; Weld 1951, 1959), *Q. rubra* (Weld 1926). Galls in March - April, adults in April (Ashmead 1887, Weld 1926).

Species Transferred from *Eumayria*

Andricus longipennis (Ashmead), New Combination

Neuroterus longipennis Ashmead 1887: 140. Type examined.
Eumayria longipennis: Weld 1951: 644.

Comments.—The type for this species is a male and bears the labels "Jacksonville, Fla.", "Collection Ashmead", red label "Type No. 2873 USNM", and a handwritten label "*Neuroterus longipennis* Ashm." Ashmead described the female and the gall "from eight specimens bred May, 1886" (Ashmead 1886). The description, given by Ashmead (1887) does not agree with this specimen. Yet, this is the only specimen of this species that we were able to find in the USNM collection. However, L. Weld indicated in his personal catalog (a copy of which was kindly sent to us by Dr. R. J. Lyon) that, in addition to the type, there were two wasps and one gall in an old case in the USNM and that the collection of American Entomological Society had 3 wasps. In his catalog L. Weld wrote: "Type in USNM has head massive, not broadened behind eyes, no malar groove, ant. 16-seg. . . ."—these characters were the basis on which Weld moved the species into *Eumayria.* The term "head from above massive", which Weld (1952) defined as a head with a "length at least half width" from above, is too imprecise for taxonomic purposes. For instance, there are bisexual *Andricus* species (*A. crispator* Tschek, *A. quercuscalicis* Burgds, *A. quercuspetiolicola* (Bass.)) and several North American *Callirhytis* species known to have "massive head", 1.8–2.0 times only broader than long. A precise ratio of length and width must be given to avoid confusion. *Eumayria floridana* has a head only 1.5–1.7 times broader than long, which can never be found in *Andricus* or *Callirhytis* species. The two other characters—genae not broadened behind eyes, no malar groove—are present in many genera. Antenna of the male of *N. longipennis* type is 16-segmented, while in *E. floridana* it is 17- or even 18-segmented. The presence or absence of the tooth on tarsal claws, as we mentioned above, is likely a homoplasy; consequently, it is a character of no generic importance. An examination of *Neuroterus longipennis* type (male) showed that it is not a *Eumayria* species. It belongs instead to the genus *Andricus* in a group of species known to induce stem-swelling galls. Several North American species from the current *Callirhytis* genus eventually must be transferred to this group as well.

Distribution.—Florida (Jacksonville) (Ashmead 1887, Weld 1951).

Biology.—Only the male is known. Induces stem-swelling galls (Ashmead 1887) on *Quercus laurifolia* (Ashmead 1887) and *Q. phellos* L. (Weld 1959). Adults emerge in May.

Eumayriella Melika and Abrahamson, New Genus

Type species.—*Eumayria invisa* Weld (1952b). Holotype (No. 60123) and six paratypes in the USNM [examined].

Etymology.—The genus is named in honor of Dr. Gustav Mayr.

Diagnosis.—Fore wing never reaching beyond apex of gaster. Closely resembles brachypterous species of *Trichoteras* Ashmead: *T. coquilletti* Ashmead and *T. tubifaciens* (Weld). However, in *Eumayriella,* thorax flattened dorso-ventrally; pronotum dorsally much longer, placed in same plane as scutum; scutum and scutellum pubescent, each longer than broad, scutoscutellar suture distinct, scutellum without foveae; head broader than thorax from above, 2.3–3.0 times broader than high; antenna filiform, F2 shorter than F1; while in *Trichoteras* thorax arched in anterior one-third; pronotum dorsally much shorter and not in same plane as scutum; each scutum and scutellum as long as broad; head narrower or equal to thorax; antennae short, F2 nearly equal F1. *Eumayriella* also closely resembles *Eumayria,* but head more transverse in front view and from above (2.3–3.0 times broader than high, while in bisexual *Eumayria* only 1.5–1.7 times and in unisexual *Eumayria*—2.5–2.8 times; malar space without radiating striae; antenna filiform, long, 14-segmented, F1 substantially longer than pedicel and scape together; all flagellomeres much longer than broad. Scutum and scutellum longer than broad, with dense white setae, without median and anterior parallel lines; distinctly emarginated laterally and partially posteriorly too; scutellum without foveae, with transverse depression along scutoscutellar suture; apical one-third of scutellum gradually depressed toward apex and narrowed into point that joins scutum along median dorsal part; while posterior one-third of scutellar disk highest part, strongly convex; sculpture of scutellar disk very finely punctate, posterior one-fourth rugose. In *Eumayria* head nearly as high as broad, malar space and partially frons with radiating striae; antennae much shorter, F1 as long as pedicel, scape as broad as long; F2 to F4 slightly longer than broad, subsequent flagellomeres, except last one, subequal, nearly as broad as long; scutellum with foveae, posterior part of disk never convex; posteriorly rounded and with dull rugose sculpture; scutum and scutellum bare, without dense white setae. Second abdominal segment in *Eumayriella* without pale felt-like ring of dense short setae at base, while *Eumayria* with such ring. Last character also used for separation of several genera of Eucoilidae (Cynipoidea) (Quinlan 1986).

Description.—See descriptions of *E. invisa* and *E. archboldi.*

Distribution.—Florida.

Biology.—Only females are known.

Galls in a form of chambers, hidden under the bark of twigs.

Eumayriella archboldi Melika and Abrahamson, New Species
(Figs. 10–12)

Description. Unisexual female. Entire body red brown, except for black proepisternum and propodeum. Head from above much broader than thorax, 3 times broader than long; in front view transverse (Fig. 10). Occiput, vertex, gena, and frons uniformly finely punctate, frons with dense short pale setae. POL only slightly longer than OOL; gena broadened behind eye, nearly as broad as diameter of eye; malar space uniformly finely punctate, without groove and radiating striae; nearly 4 times shorter than length of eye; clypeus depressed, rounded anteriorly. Antenna long, filiform, 14-segmented in holotype, however indistinct suture in paratypes suggests 15th segment. Pedicel and scape flattened, F1 longer than pedicel and scape together, subsequent flagellomeres distinctly longer than broad, gradually shortened toward end (Fig. 11). Pronotum in median dorsal line longer than usual, only 7 times shorter than length of scutum; in same range as scutum, not arched. Sides of propodeum densely pubescent, distinctly visible dorsally, much broader than usual in Cynipini (Fig. 12). Scutum smooth, shiny, with areas very finely coriaceously sculptured, especially laterally, densely pubescent; as broad as long, with notauli reaching pronotum (in type specimen) or present at least in posterior two thirds. Scutum without median and anterior parallel lines; emarginated laterally. Scutellum emarginated posteriorly and laterally, with very indistinct foveae; finely coriaceous, densely pubescent, distinctly longer than broad; posterior one-third of scutellar disk highest part, strongly arched. Fore wing narrow, barely reaching apex of gaster, with thick brown veins, with cilia on margins. Legs slightly lighter than body, uniformly brown. Propodeum black, median part shiny, bare, with strong striae, limited by two distinct carinae converging gradually and slightly inward. Gaster slightly longer than high, base of 2nd abdominal tergite without ring of pale setae, occupying nearly half length of gaster; 3rd to 6th tergites visible and finely punctate dorsally and dorsolaterally. Ventral spine of hypopygium very slightly reaching beyond apex of gaster, narrow, needle-like, with very few and short pale setae, never reaching beyond apex of spine. Length 3.1–3.6 mm.

Diagnosis.—Frons with dense white long setae while in *E. invisa* without/or with barely visible, very few, short scattered pale setae. Scutum rounded, nearly as broad as long; notauli present at least in posterior half, sculpture of scutum hidden under dense white pubescence while in *E. invisa* scutum slightly elongated, notauli distinctly reach pronotum. F1 much longer than pedicel and scape together, while in *E. invisa* F1 equal or only slightly longer than pedicel and scape together and body much smaller than in *E. archboldi.*

Types.—Holotype ♀. Paratypes two ♀. *Type locality.* Archbold Biological Station, Lake Placid, Highlands Co., FL, adults trapped on 4 January 1988 (coll. Mark Deyrup). Holotype in the USNM, Washington, DC, 2 paratype ♀ in the private collection of G. Melika.

Etymology.—The species named in the honor of Mr. Richard Archbold, founder of the Archbold Biological Station.

Distribution.—Florida (Archbold Biological Station, Lake Placid, Highlands Co.).

Biology.—Only females are known. Adults emerge in December–January.

Eumayriella invisa (Weld), New Combination

Eumayria invisa Weld 1952b: 335. Females and galls. Types examined.

Diagnosis.—See diagnosis to *E. archboldi.* Difficult to distinguish this species on the basis of galls alone. Galls similar to those caused by *Callirhytis crypta* (Ashm.), *Bassettia floridana.* Adult wasps are necessary for precise identification.

Comments.—We do not provide a description of *E. invisa* because it was described precisely by Weld (1952a).

Distribution.—Florida (Carrabelle-type locality-Weld 1952b; Archbold Biological Station, Lake Placid, Highlands Co.; Jonathan Dickinson State Park, Martin Co.).

Biology.—Only a unisexual generation is known. Induces stem galls in the form of small larval cells hidden under the bark, usually without external evidence of galling on *Quercus myrtifolia.* Adults were dissected from galls in November (Weld 1952b). Adults emerge in January in south-central Florida (personal observation).

Acknowledgments

We express our deepest appreciation to J. Fitzpatrick for his support of our work at the Archbold Biological Station, M. Deyrup for providing laboratory space and support, and C. Abrahamson for extensive field and technical assistance. We also thank R. Lyon for suggestions and comments. We thank J. Abrahamson, R. Bowman, G. Csóka, R. Hammer, A. Johnson, I. Kralick, R. Peet, R. Roberts, P. Schmaltzer, A. Schotz, C. Winegarner, and M. Winegarner for field and technical assistance. Our special thanks to A. S. Menke for his valuable suggestions and support during our work in the National Museum of Natural History, Smithsonian Institution (USNM), Washington, DC. Support was provided to GM and WGA by Bucknell University's David Burpee endowment, the Archbold Biological Station, a National Museum of Natural History, Smithsonian Institution grant to GM, and NSF grant BSR-9107150 to WGA.

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